Galveston Bay Seafood Safety

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Seafood safety, as monitored by the Seafood Safety Division of the Texas Department of Health (TDH) is divided into two areas: molluscan shellfish; and other aquatic life. Molluscan shellfish (oysters, clams and mussels) safety is monitored by the Classification Branch and the Certification Branch. Other aquatic life is monitored by the Survey Branch. This division deals with the harvest area safety of all seafood and the processing and distribution of oysters, clams and mussels and picked crab meat. Processing and distribution of all other seafood and seafood products is under the jurisdiction of the Manufactured Foods Division and the Retail Foods Division at TDH.

Molluscan shellfish growing areas are surveyed and classified into one of four designations in Texas. A four part sanitary survey, including pollution source survey, hydrographic survey, meteorological survey and bacteriological survey, determines those areas which meet the stringent requirements established in the National Shellfish Sanitation Program (NSSP). The areas are classified as: Approved (allowing harvesting for direct delivery to market); Conditionally Approved (requiring closure under certain monitorable conditions but allowing direct market harvesting when open); Restricted (not allowing harvesting except for some type of cleansing activity before marketing); and Prohibited (not allowing harvesting for human consumption).

The most significant contributor of pollution in the Galveston Bay system which affects molluscan shellfish classification is non-point runoff. Rainfall and river flow are the monitorable conditions which control the three Conditionally Approved areas. The Conditionally Approved areas and the Restricted areas in Galveston Bay are primarily a result of exceeding the fecal coliform guidelines established in the NSSP. The bacteriological guidelines for shellfish are fourteen times more stringent that swimming water levels. There is a great deal of concern that the fecal coliform guidelines are more restrictive than necessary because the laboratory analysis may identify bacteria which are not truly fecal in origin. However, until a national indicator study is completed to establish and verify a new indicator organism, the Texas Shellfish Program has no choice but to continue use of fecal coliform. While the study is not currently funded, about fifty percent of the work has been completed and there is some hope that funding will be made available in the future. In the meantime, the three involved federal agencies are trying to direct other research activities that are funded toward completing studies that can assist in moving the indicator study forward.

There are no trends in molluscan shellfish classifications in Galveston Bay. Most of the changes that have occurred in the last several years have been the result of improvements in sampling capability and the ability of TDH to pay for placing additional markers in the bay. Both are made possible by the Oyster Sales Fee established by the industry to provide funds for these and other activities. Because of the nature of the program, the targeted sampling, the problems with the indicator organism, and a myriad of other

factors, the molluscan shellfish classifications and changes in them must not be used as an indicator of pollution in the bay system. This program is very specific, for one commodity eaten in an unusual way (raw whole consumption), and is not accurately representative of other pollution concerns.

The analysis of other aquatic life is focused on chemical concerns. Because of their feeding mechanisms and their preparation before consumption, other seafood does not represent the bacteriological hazards of molluscan shellfish. Collection and analysis of seafood tissue samples from growing areas and resulting risk assessment indicates where one or more species may be unsafe for human consumption. The risk assessment will indicate whether: there is no risk in consuming the seafood; there is some risk from long term continued consumption (chronic); or there is a risk if even a few meals are consumed (acute). If the risk is acute, TDH can declare the area Prohibited for the taking of involved species. This makes it a violation of law to posses indicated species from that area. If the risk is chronic, TDH can issue a Consumption Advisory indicating what levels may be safely consumed. The consumption advisory has no legal effect, but represents warning to consumers so they can make informed decisions about the safety of their foods.

A question which continues to concern many people is commercial harvesting from areas where TDH has issued a consumption advisory. There should be no fear of these products because of a phenomenon called "market dilution". Commercial fishermen do not always fish in the same area, and even if they do, they fish in many different areas and mix the caught species together. In addition, wholesale and retail fish markets buy products from many different fishermen. Therefore, even when a consumer goes to a specific fish market regularly, the consumer will buy products that have been harvested from different areas. This does not present the long term continued consumption pattern that is a safety hazard. The real concern is for the recreational fisherman who has a particular favorite spot where he or she always catches fish or crabs or shrimp. If they go there repeatedly, or they fill their freezer with seafood from one successful trip, then the family will be exposed to the long term continued consumption of products from that area. This can result in health problems if the seafood is contaminated.

Currently in the Galveston Bay system, the only consumption advisory is for all species of catfish and blue crabs in the Houston Ship Channel and all contiguous waters and upper Galveston Bay north of a line drawn from Red Bluff Point to Five Mile Cut Marker to Houston Point. The recommendation is no more than one meal, not to exceed eight ounces, each month. Women of childbearing age and children should not consume any catfish or blue crabs from this area. The chemical of concern is dioxin. While levels in oysters have decreased to the point that the area has been reclassified from Prohibited to Restricted, levels in catfish and crabs have not shown the same decrease.

The major problem in the Survey Branch is insufficient laboratory capability. The current TDH laboratory simply cannot handle the sampling load needed. TDH has tried contracting with other laboratories for analysis but has been unsuccessful in finding a laboratory that can produce the necessary levels of detection, quality control and turnaround time. While TDH is currently in the planning stage for a new laboratory building with increased analysis capability, relief is many years away. In the meantime, the program continues to sample identified areas of concern on a limited basis as priorities dictate. The result of this situation is that TDH is sampling only a few of the sites of concern, and is certainly not conducting

routine growing area sampling to look for undetected concerns. TDH continues to look for alternative methods to improve the sample analysis capability, and will conduct studies as rapidly as possible.